

Evidence-Based Practice

## A Case for Evidence-Based Practice

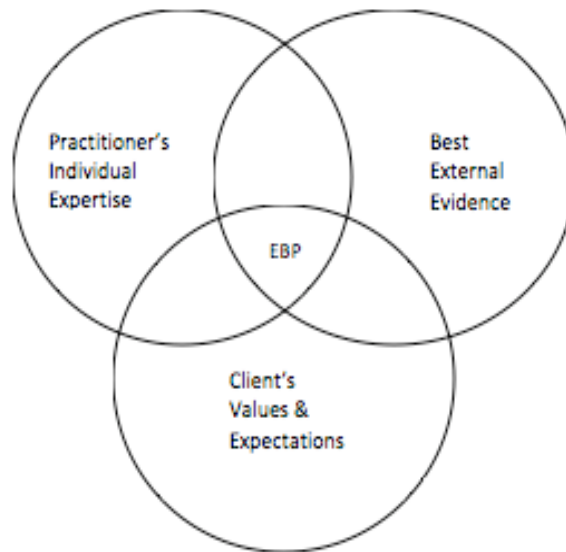
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*Evidence-based practice (EBP) has enjoyed increasing popularity in the field of social work. However, not everyone is enthusiastic about this movement. This paper defines EBP, attempts to clarify common misconceptions about EBP, and organizes and analyzes some of the criticisms of EBP so that the field of social work can move onto a more productive debate about its legitimate strengths and limitations.*

Evidence-based practice (EBP) has increased in prevalence in the field of social work and enjoys a strong body of supporters. However, not everyone is enthusiastic about this shift. Indeed, one need not look hard to find resistance to this movement from the field and even from schools of social work that teach EBP. Some practitioners contest that their authority, expertise, and reflective judgment should not be replaced by a mechanistic evidence-based decision-making process and are skeptical about the practicality of such a research-based approach. Other social workers and researchers feel that EBP is too narrow to encompass the dynamic nature of complex social problems. Still others worry that EBP may inadvertently restrict the development of novel interventions. This paper attempts to clarify common misconceptions about EBP and to organize and analyze some of the criticisms of EBP so that the field of social work can move to a more productive debate about its legitimate strengths and limitations.

### What is Evidence-Based Practice?

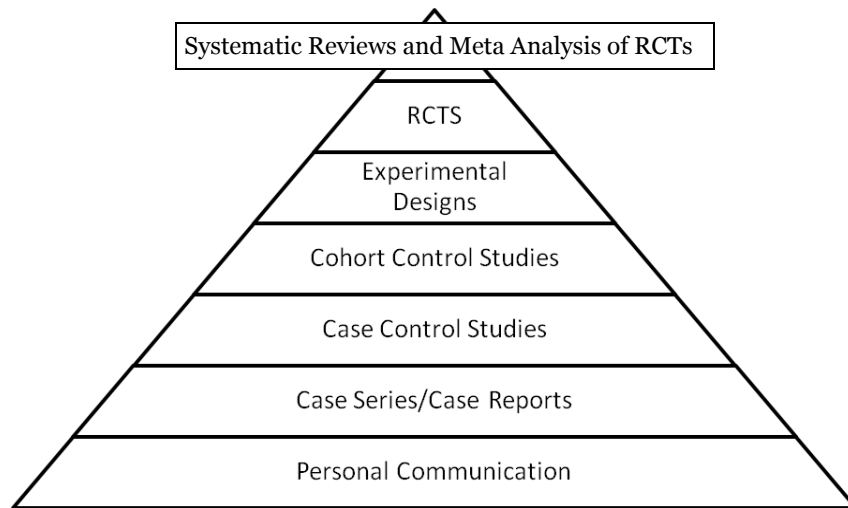
EBP is “the conscientious, judicious and explicit use of the current best evidence in making decisions about the care of individuals” (Gibbs & Gambrill, 2003, p. 453). EBP is *conscientious* in the sense that it should be ethical, effective, and honest. It is *judicious* because the decision to incorporate a piece of evidence into practice should be considered and prudent. Using the *current best evidence* means that practice and policy decisions are based on evidence that utilizes the most rigorous methodology possible and is subject to updating. EBP should also be *explicit* in its transparency. This means practitioners and policy makers are expected to share the evidence with their clients or constituents and consider client feedback in the decision-making process. Clients also feed into the decision-making process through qualitative research on client views and experiences, and satisfaction surveys. Through this collaborative process, practitioners incorporate clients’ values as a key part of their decision-making. Therefore, EBP must be a comprehensive approach that integrates client values and preferences with practitioner knowledge, expertise, and judgment. There are a variety of diagrams like the one below that illustrate the inclusive EBP model.

**Figure 1**

**Source: Gibbs, 2003, p. 14.**

The definition and model above describe using the “best external evidence.” Determining what constitutes the best evidence depends on the type of question. For questions concerning effectiveness, EBP advocates refer to a hierarchy of evidence where the best external evidence sits at the peak as demonstrated below in Figure 2. This hierarchy places systematic reviews of randomized controlled trials (RCTs) and meta-analysis at the top, and personal testimony and expert opinion at the bottom with many other methods of evaluation in between such as: cohort studies, case-control studies, and case reports. If there are no systematic reviews or RCTs conducted on a specific research topic, the evidence-based practitioner moves down the hierarchy until an appropriate study design can be found.

**Figure 2**



**Source: University of North Carolina Chapel Hill, 2008.**

As a holistic approach, EBP adheres to a hierarchy of the best, current, and available evidence while incorporating client and practitioner values, yet it should be emphasized that EBP is a *process* that actually includes several steps. These steps consist of: (1) Converting information needs into answerable questions; (2) Searching for the best evidence to answer the questions; (3) Critically appraising the evidence for validity and usefulness; 4) Applying the results of this appraisal to policy/practice decisions; and 5) Evaluating the outcomes (Gibbs & Gambrill, 2002). As both a process and an approach, an example of EBP can be found in Gibbs and Gambrill's text which follows a social worker through the five steps described above (2002).

A social worker at a nursing home learned that the facility might be shut down in 60 days by state inspectors. All 135 residents would have to move. (Step 1: Answerable Questions) The social worker wondered: "What is the effect of relocation on mortality rates in elderly residents of a nursing home?" and "If relocation is necessary, what is the most effective way to relocate elderly residents?" (p. 455). (Step 2: Evidence Search) She conducted an online literature search using seven different relevant databases. (Step 3: Evidence Appraisal) After reviewing abstracts to identify well-designed studies, she found a review summarizing 11 studies that addressed both of her research questions. Two of these studies were single-group pre-posttest studies, two were posttest only, seven were pre-test/posttest with a control group, and one was a RCT. The general results of her research indicated that "inter-institutional relocations are stressful but usually not life-threatening" (p. 456) and much of the stress can be reduced by consulting with nursing home residents in preparation for a move. The studies described different preparation

techniques such as taking residents and families on tours of the new facility and asking them for input on the color and location of their rooms. (Step 4: Apply Results) The social worker presented her findings at a staff meeting which better prepared the staff in the event of relocation. (Step 5: Evaluate) Fortunately, the residents did not have to relocate; however mortality rates and other undesirable outcomes could have been measured after a move to see if the preparation was effective.

This example incorporates the definition, steps, and comprehensive approach of EBP. The story effectively demonstrates how EBP can and should work. Although seemingly straightforward and reasonable, EBP has actually proven to be quite controversial. Common criticisms in the literature concerning EBP can be allocated to four main categories: limitations of EBP based on misconceptions, inapplicability critiques, practicality arguments, and philosophical critiques. This list is not exhaustive, as delineating every single criticism of EBP is beyond the scope of this paper.

### **Limitations Based on Misconceptions of Evidence-Based Practice**

Many criticisms are based on misinterpretations of EBP. Two main criticisms that fall under the umbrella of *misconception* critiques are: EBP is too narrow and too simplistic in its approach. Critics believe it is too narrow because it relies heavily on RCTs and that it is too simplistic because it imposes universal “cookbook” solutions that dictate intervention application without sufficient regard to individual and situational factors.

#### *A Narrow Approach*

EBP is often described as over-emphasizing the “gold standard” of RCTs. A few of the many examples of criticisms regarding RCTs are demonstrated in the following statements: “The orthodoxy of experimental manipulation and RCTs is dangerous when applied unthinkingly to health promotion,” or, “randomized comparisons can yield biased assessments of true effects of interventions,” and “randomized designs have, like all designs, important limitations” (as cited in Chalmers, 2003, p. 8).

It is true that “EBP favors methods that critically appraise claims so that we do not misinform ourselves and our clients” (Gibbs & Gambrill, 2002, p. 464). EBP uses RCTs because they are the optimal evaluative design for measuring intervention effects. With questions about whether an intervention produces the desired outcome, “non-experimental approaches ... routinely lead to false positive conclusions about efficacy” (Sackett et al., 1996, para. 8). RCTs, and especially systematic reviews of several randomized trials, are considered the “gold standard” because they rely on an experimental design and are therefore more likely to inform than mislead (Sackett et al.). RCTs accomplish this in two ways: 1) Through randomly allocating participants to comparison groups to abolish selection bias and 2) Through the use of a control

group so that we know it is the intervention that is causing the change instead of external lurking variables. Systematic reviews are also at the top of the hierarchy because they are “typically more rigorous,” “exhaustive in the search” strategy, “transparent” and “less grandiose in claims of effectiveness” (Gambrill, 2003, p. 13-14). In short, depending on the research question, certain kinds of evidence are more accurate, useful, and reliable than others.

Although RCTs are ideal when applied to questions concerning causality and effectiveness, EBP recognizes the limitations, biases, and applicability of each research approach, including RCTs. This understanding is illustrated in EBP textbooks, articles, and instructional manuals. The curriculum describing EBP clearly states that it is not restricted to RCTs. It involves identifying the best external evidence in order to answer important clinical questions (Sackett et al., 1996). Different research designs are applicable to answer different types of questions. For example, “to find out the accuracy of a diagnostic test, we would use cross-sectional studies of patients who might have the relevant disorder, not a randomised trial” (Sackett et al., para. 8).

Often, RCTs cannot and need not be used at all; nor does EBP require it. For example, researchers would not use a RCT to test the effectiveness of parachutes even though proof of their effectiveness is based largely on anecdotal evidence and observational data. In fact, Pell and Smith conducted a systematic review titled “Parachute Use to Prevent Death and Major Trauma Related to Gravitational Challenge” (2003) and were shockingly unable to identify any RCTs. There are also instances where researchers cannot use randomization. This is especially true in the arena of program evaluation where government and nonprofit agencies do not allow randomization for ethical or political purposes, or researchers are contracted to evaluate existing programs that have not employed randomization. In fact, the vast majority of the social work evidence base consists of quasi-experimental or observational research.

The confusion among critics about the role of RCTs in evidence-based social intervention lies in the failure to distinguish the purpose of using one research design over another (Chalmers, 2003). The key question to ask is: “Can researchers manipulate the factors?” For example, to understand the effects of divorce on child development, a researcher would not use a RCT because it is a contextual question and the researcher cannot manipulate the variables (i.e. the researcher cannot make one half of the children’s parents divorce). After conducting primary cross-sectional research or reading studies of child development, the researcher might be able to form a theory. The theory can then lead to intervention ideas. These intervention ideas can be tested in three stages. The first stage is a pilot or feasibility study. If feasible, the intervention can then be investigated using a RCT in a tightly controlled efficacy study, then later in a “real world” effectiveness study (Carroll & Onken, 2007). Furthermore, the RCT can be combined with qualitative methods and mediator and moderator analyses to elucidate the processes and mechanisms that explain why, how, and for whom the intervention works. In other words, there is actually no need to pick one design *over* another. In fact, mixed-method approaches are becoming increasingly popular in evidence-based social interven-

tion research.

In short, EBP incorporates an array of different kinds of evaluation methods based on the best available evidence that can answer the specific type of question asked to solve a particular problem. It is too simple to focus on the flaws of RCTs or any particular evaluation method. EBP does not “unthinkingly” apply experimental methods to promote any intervention. It is understood that biases and limitations are an inevitable part of any methodology; however, EBP attempts to choose an appropriate method that reduces bias as much as possible.

### *A Simplistic Approach*

There is a common fear that EBP will replace practitioner expertise by dictating solutions to professionals that ignore their values and preferences and those of their clients. This is based on the misunderstanding that EBP takes a “cookbook” approach or uses a one-size-fits-all model. This recipe for potential disaster does not consider the actual definition of EBP and the steps and diagram described earlier. Practitioner’s expertise decides whether research evidence applies to the individual client at all, and if so, how it should be implemented into practice while keeping the client’s voice in mind. Those who employ EBP argue that external evidence can inform, but not replace, individual clinical expertise (Sackett et al., 1996). As the earlier diagram illustrates, EBP is intended to be a comprehensive and empowering strategy that integrates the best, current, available evidence with practitioner expertise and client preferences.

The “cookbook” misconception suggests that EBP poses one certain solution for each individual problem. As Newman, Moseley, Tierney, and Ellis (2005) explain, “contrary to popular belief, evidence-based practice is not about searching for a ‘right answer’ because there rarely is only one right answer” (p. 5), in social work and social policy. Additionally, EBP actually makes no statement on the individual level. Systematic reviews and RCTs assess the probability of an outcome occurring on an aggregate level. In other words, EBP “cannot deliver certainties, just increase probabilities” (Newman, Moseley, Tierney, & Ellis, 2005, p. 5).

### **An Approach Inapplicable to Social Interventions**

There is a belief that the problems social work and social policy address are too complex and dynamic to apply the formulaic process of EBP (Plath, 2006) and that while EBP might work for medical interventions, it will not work for social interventions. However, evidence-based social interventions are not new. In fact, social work has a long history of using scientific research evidence to guide practice, dating back to the turn of the twentieth century (Gibbs, 2002). In the 1930s social scientists in the United States were trained in experimental methods, and evaluations of social interventions were carried out by independent investigators. Between the early 1960s and late

1980s, RCTs emerged as the ideal method for assessing a wide range of public policy interventions (Oakley, 1998). One of many examples of EBP in action is a recent systematic review that evaluated the effectiveness of sexual abstinence-only HIV prevention programs in high-income countries. The review found that these programs had no effect on the HIV rate (Underhill, Montgomery, & Operario, 2007). In response to the evidence, the US Congress reassessed funding for these programs. Another example of the successful implementation of EBP is when professionals delivering an education and training program for high school dropouts agreed to a RCT to assess its effects, in spite of their concern that it might fail to find any beneficial effects of their work. The results of the trial were positive and led to a 15-site expansion serving hundreds of disadvantaged youth (Chalmers, 2003).

These examples demonstrate that rigorous scientific methods and appropriate design choices can be used to successfully evaluate social interventions. Critics who claim that EBP is not applicable to social interventions because we “cannot quantify the human experience” (Chalmers, 2003) are right: The human experience may not be quantifiable, but the effectiveness of specific interventions is.

### **An Impractical Approach for Real World Practitioners**

There are many practical reasons practitioners do not incorporate EBP into their daily routine. These include lack of resources, time, training, and evidence. Practitioners are often busy with overwhelming caseloads, managing several job titles. They may feel that they have more pressing tasks to accomplish than to become researchers on the side (Newman, Moseley, Tierney, & Ellis, 2005). Although this argument is legitimate, social work practitioners are professionally obligated to use evidence to inform their practice if they seek to adhere to a code of ethics.

Incorporating evidence into practice is not just ethical, but practically speaking, EBP actually saves time and money. EBP can help practitioners to identify the most effective interventions. Systematic reviews summarize RCTs so practitioners do not have to search, find, and read each one and then try to evaluate their collective effectiveness. Additionally, developments in information technology have greatly accelerated the process by which information can be searched, identified, obtained, and updated. Practitioners no longer have to spend hours attempting sophisticated searches because “the average length of time to conduct an electronic search [is] between 5.5 minutes -7 minutes 6 seconds” (Gibbs, 2003, p. 18). Furthermore, a simple search of Google Scholar can provide useful results. As previously demonstrated in the example of the social worker in the nursing home, incorporating EBP into decision-making does not necessarily entail a lengthy research process.

Even when practitioners have time to search, they may feel they lack the skills to navigate the vast amount of available information. To exacerbate this problem, schools of social work in the United Kingdom and United States have not dedicated adequate attention to instruct students how to search for and

locate pertinent research from online databases (Newman, Moseley, Tierney, & Ellis, 2005). Although this is a legitimate problem, it is far from insurmountable. Simple searches of the most important and relevant databases are achievable by any practitioner with access to a computer and the internet (Newman et al.). Additionally, practitioners can refer to several user-friendly guides on how to search and can also seek assistance from reference librarians for sophisticated searches.

Where practitioners have the time and skill to conduct searches, there may not be enough evidence to establish which interventions work. In the case when there is no evidence for an intervention, or the evidence is scarce, practitioners should report their findings, use their best judgment, and be open to alternatives (Newman et al.).

### **Philosophical Criticisms**

Perhaps the most legitimate criticism of EBP is philosophical in nature. Organizational Theory professor Jim Mandiberg warns, "Evidence-based practice is anti-innovation! It is a bunch of like-minded funders who already agree with EBP reading each other's proposals deciding only to fund the handful of evidence-based practices that they agree with" (personal communication, January, 21, 2010). Khun's theory of the structure of scientific revolutions suggests that real innovation comes from the periphery – that is, from those members who do not follow the established paradigm (1962). EBP must then seek to incorporate and evaluate social interventions and ideas from alternative sources in addition to peer-reviewed academic journals. To a certain extent, the growing popularity of the evaluation of existing social programs can help in this area. If a client and/or practitioner implements a new intervention, then the success or failure of that intervention should be documented and absorbed into the evidence base so that others can learn from it. Furthermore, the recent support of the *stage model* of intervention development (the aforementioned process where researchers design and test inchoate interventions in feasibility, efficacy, and effectiveness study stages) is spawning innovation from within academia. We must be cautious not to focus exclusively on current evidence-based practices and, as a consequence, ignore more ground-breaking interventions from non-conformist social work pioneers.

### **Conclusion**

EBP is criticized for a variety of reasons. These critiques are mainly based on misconceptions and the impracticality of EBP. However, EBP is a comprehensive approach incorporating research evidence together with clients and practitioners' values. It utilizes the best, current, and available evidence relevant to the research question asked. There is a clear hierarchy of evidence with regard to questions of effectiveness. If little or no evidence is available, practitioners should report the state of the evidence and use their best judgment. EBP gives us a mode of comparison for competing interventions and a



set of tools to make informed decisions. It is a constantly evolving journey, not a stance. EBP researchers must be careful not to overlook innovative approaches, but rather incorporate them into the process as best identified by clients and practitioners. Better methods of evaluation and interventions will replace previous best practices. EBP is not perfect, but when used correctly, it has tremendous potential to provide clients with information, options, and programs that work.

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